



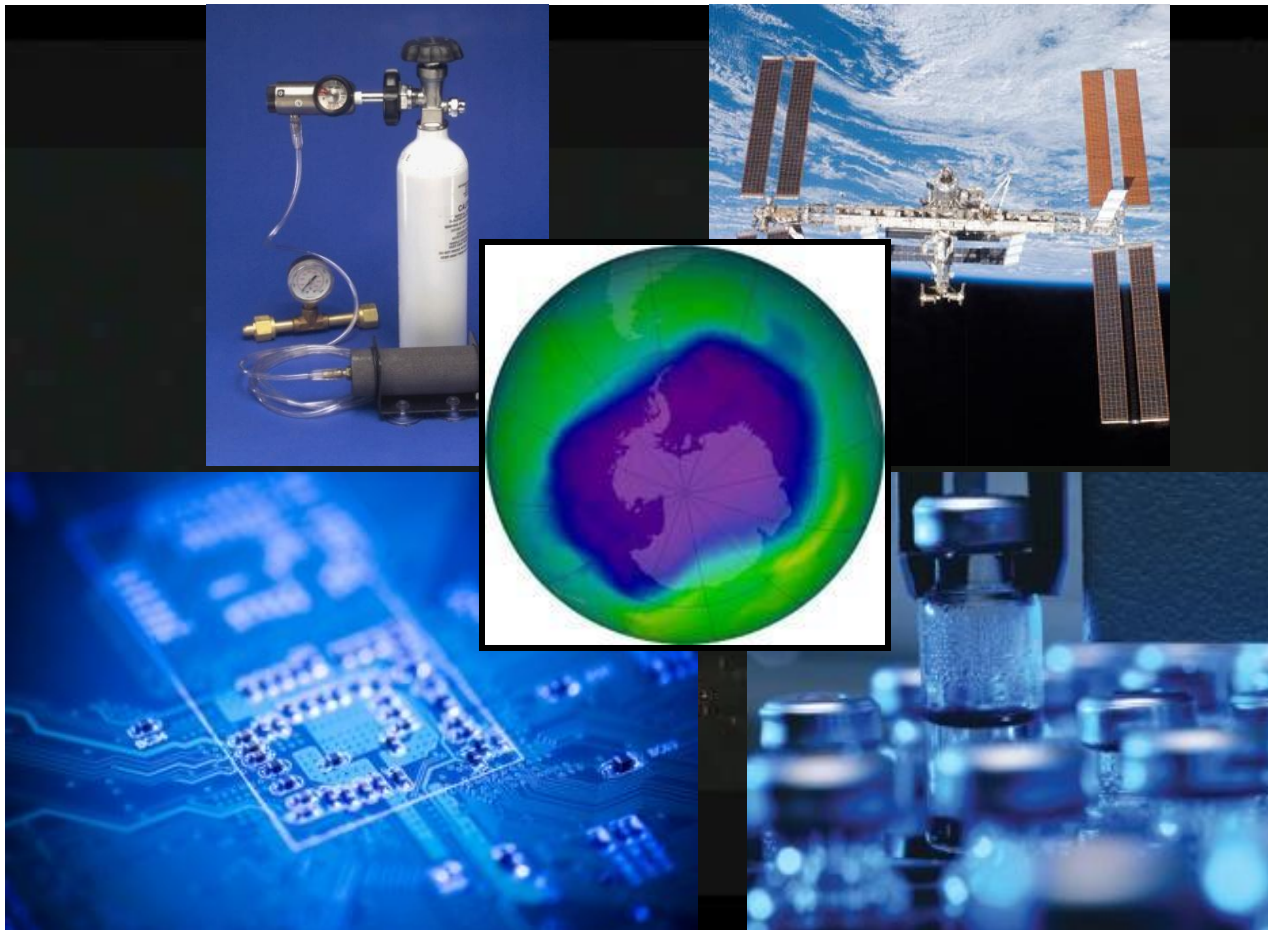
NASA Cleaning and Cleaning Verification Issues **The Search for New Cleaning Solvents**

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Why Do I Care About Precision Cleaning, and Who Else Cares?



What is Precision Cleaning?

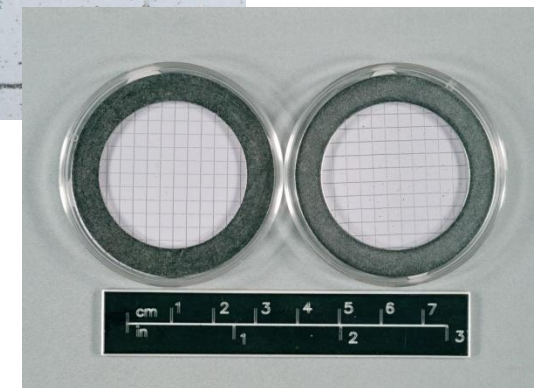


Cleaning



Precision Cleaning

- Quantified level of cleanliness.
 - Down to the micron level

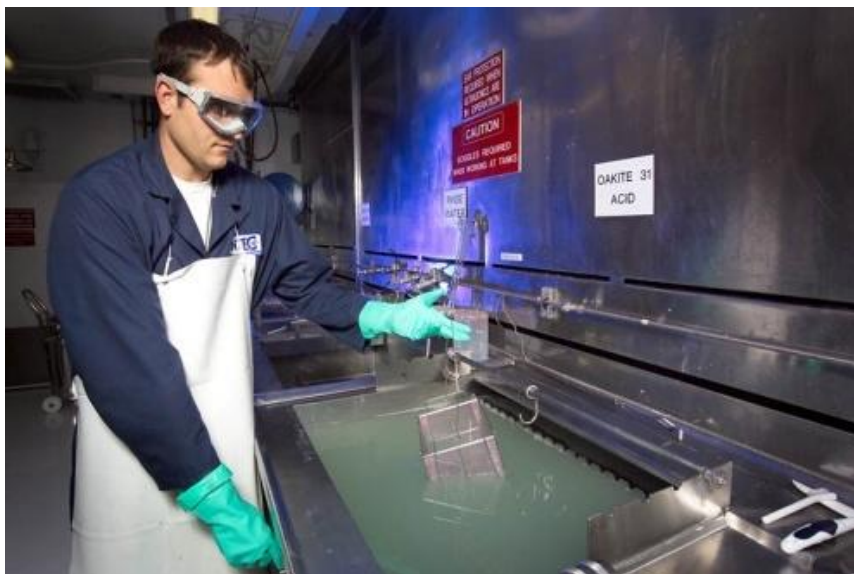


How is Precision Cleaning Performed?



Aqueous Cleaning

- Ultrasonic tanks
 - Caustic (ex: Oakite 126)
 - Alkaline (ex: Oakite 31)



Solvent Final Cleaning (Verification)

- Solvents
 - IPA
 - H₂O
 - HFE 7100
 - AK 225G
- NVR/TOC
- Particle count





Base line solvent

- Base line Solvent: A Solvent that is fully verified and to which all other solvents are compared to for verification.
 - Currently AK 225G

Why Should You Care About What Solvent is Used?

- Montreal Protocol
 - ODS (ozone depleting substance)
 - CFC 113 – Historical solvent of choice (90s)
 - HCFC (AK 225G) – Current base line solvent of choice
- Base line Solvent Replacement by 2015
 - ?Unknown ?

This is a PROBLEM!

Why Should You Care About What Solvent is Used?

- New solvents have been developed
- Need Verification
 - Long expensive studies

This is the SOLUTION!



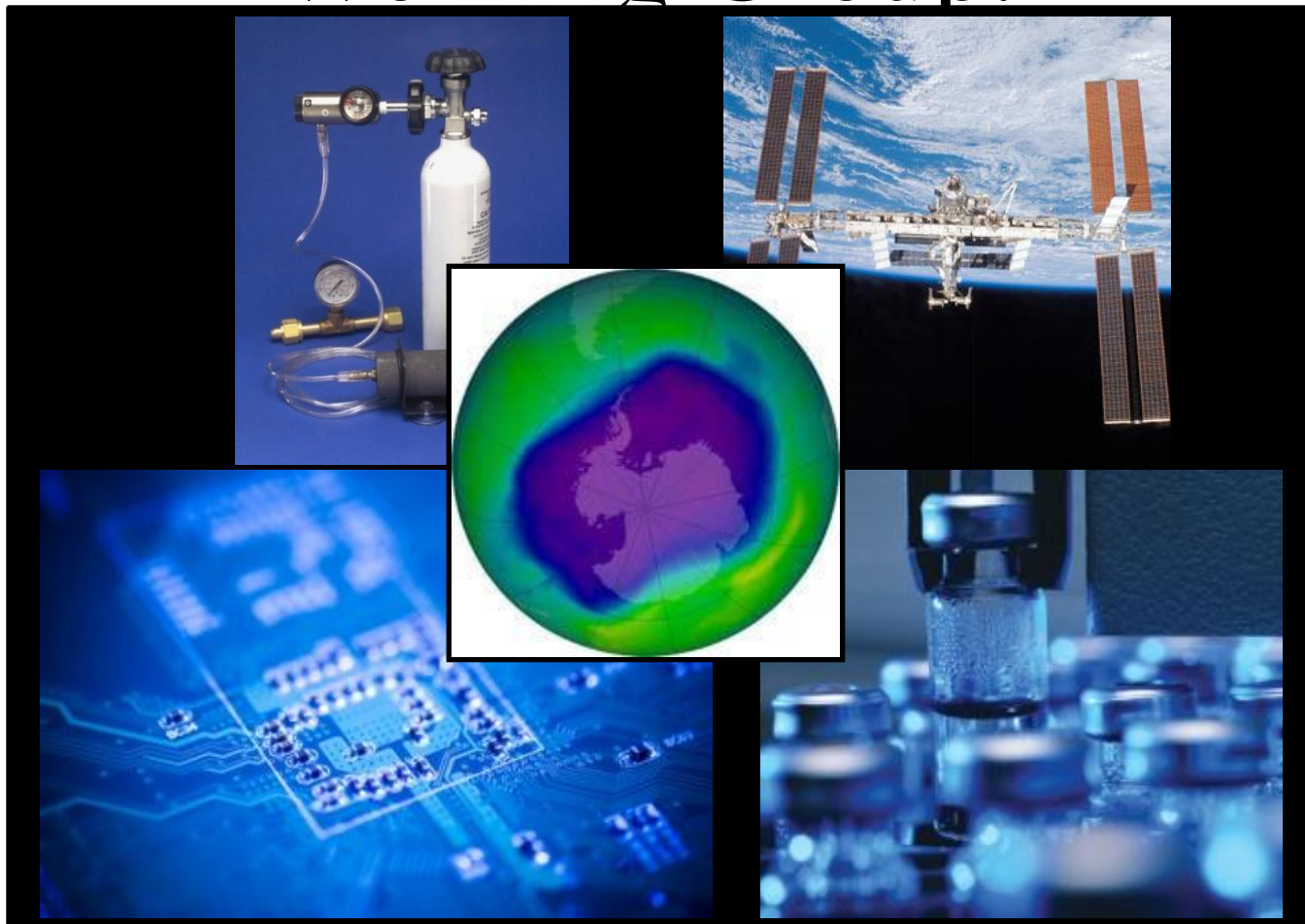
Precision cleaning and the Roles That Solvents Play

- Material compatibility
- Media compatibility
 - Example: Oxygen
- Health Considerations
- Environmental considerations
- NVR
 - Take off
 - Leave behind
- Compatibility with contamination
 - Organic
 - inorganic





We Need Your Participation in Our Working Group.



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